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| Notice of Allowability | Application No. | Applicant(s) | |
| | 10/024,768 | ROUVELLOU, LAURENT JEAN MARIE | |
| | Examiner | Art Unit | |
| | Wes Tucker | 2623 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to application filed 12-19-2001.
2. ☒ The allowed claim(s) is/are 1-8.
3. ☒ The drawings filed on 19 December 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date <u>7-02 and 12-01</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Edward W. Goodman Reg. 28,613 on March 15, 2005.

In line 1 of claim 7 after the phrase "computer program" insert the phrase "contained in a program memory."

In line 1 of claim 8 after the phrase "computer program" insert the phrase "contained in a program memory."

Allowable Subject Matter

Claims 1-8 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art does not teach or would not have rendered obvious a method of processing data contained in a digital input image formed by pixels, said method

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comprising the steps of: calculating (ACT) a spatial activity value of a current pixel based on values (Y) of said current pixel and of pixels adjacent thereto, determining (NN17) a non-natural uniform area (NN) if the spatial activity value of various consecutive pixels is lower than a first predetermined threshold value, gradient filtering (GF) values (Y) of the pixels adapted to detect (THR1) strong edges (SE) inside the image, determining (RC) an artifact if the spatial activity value of a current pixel is higher than a second predetermined threshold value and is concentrated on said pixel, and detecting (10) a ringing artifact if the artifact coming from the artifact determination step (RC) lies between a non-natural uniform area (NN) and a strong edge which are close together.

The closest prior art, U.S. Patent 5,974,197 to Lee et al. discloses a method that generates an edge map in order to determine whether an area is a homogenous area or an area containing edges (column 1, lines 58-61). Adaptive filters are then applied according to edge location information. However Lee does not disclose determining a spatial activity measure. Lee also does not disclose a step for determining artifacts according to thresholds or determining the artifacts to be ringing artifacts depending on location. Lee therefore fails to anticipate or render obvious the claimed invention.

U.S. Patent 6,795,588 to Nio et al. discloses a method to deal with ringing noise by determining high frequency component of the image (column 9, lines 55-60) and determining edge and ringing noise edge detection using comparators and thresholds (column 10, line 65- column 11, line 10). However Nio does not disclose or fairly suggest calculating a spatial activity value based on area pixels. Nio also does not

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disclose a gradient filtering step to determine edges. Therefore Nio, Lee or the combination of the two do not teach or fairly suggest the claimed invention.

Conclusion

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

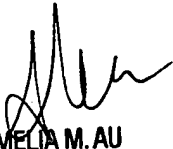
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wes Tucker whose telephone number is 703-305-6700. The examiner can normally be reached on 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703)308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Wes Tucker
3-11-05



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SUPERVISORY PATENT EXAMINER
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